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Supporting Adoption, Implementation and Use of Health Information Technology:

Lessons Learned in the Medicare Doctors Office Quality-IT Initiative

Executive Summary

The American Recovery and Reinvestment Act of 2009 (ARRA), funds new "Regional HIT Extension Centers" analogous to the federal agricultural extension program that helps farmers adapt scientific findings to their local needs. Section 3012 of the ARRA calls for the Extension Centers "to assist health care providers to adopt, implement, and effectively use certified EHR technology that allows for the electronic exchange and use of health information."

This policy is based on recognition that health information technology (health IT) can improve the quality and efficiency of the American health care system, but only if it is used effectively. Simply persuading doctors and hospitals to buy computers will not ensure clinical information is used to manage chronic illness, facilitate timely preventive care, and cut costs.

Since 2005, the Medicare program has contracted with the national network of Quality Improvement Organizations (QIOs) to assist thousands of physicians in planning for, selecting, implementing and using health information technology (HIT) in their daily practice. The American Health Quality Association, representing the national network of health care QIOs, consulted member organizations that achieved an "Excellent Pass" in their contract evaluation of their work during 2005-8 to support health IT implementation and use. AHQA asked them to share lessons learned that would help federal officials in their implementation of Section 3012 and the financial incentives provisions of the ARRA. Those lessons are summarized in this paper.

Lesson learned: Planning and Implementation Assistance is Essential to Avoid Failure
Few practices fully anticipate the changes they need to make, and most are unequipped to successfully navigate these changes without assistance. Without support most will fail in their implementation, either quitting their transition to health IT or wasting time and money automating ineffective paper-based operating procedures. Dr. David Brailer, the first Director of the ONC, estimated that about fifty percent of physician practices that attempt on their own to move from paper to EHR systems will fail. Others have reported even higher rates of failure. Most of these failures are attributable to the user's preparation.

Lesson Learned: Regional Extension Center Personnel—Size of Workforce
ARRA explicitly sets as a strategic objective for the ONC "[t]he utilization of an electronic health record for each person in the United States by 2014." Based on the workforce required to implement the national Medicare DOQ-IT initiative (an average of one consultant supported 19 practices), the health IT Extension Centers will require approximately 11,000 to 13,000 health IT consultants to assist 208,000 to 250,000 practices that currently lack basic EHRs.

Lesson Learned: Regional Extension Center Personnel—Skills Needed
Consistent with the evidence that shortcomings in management and planning explain most IT implementation failures, Regional Extension Centers must have technical knowledge of commonly used HIT vendors and their products, but technical knowledge will be insufficient. Extension Centers must be proficient in clinical process redesign techniques and office-based practice culture in order to be effective in providing health IT implementation assistance in this setting.

Lesson Learned: Extension Center Services Providers Need Most
QIOs report that physician offices greatly benefited from setting target quality goals at the beginning of the process, and working with their QIO consultants to create a clear implementation plan to achieve those goals. All the QIO health IT experts stressed the critical importance of onsite assistance to guide practices through clinical workflow redesign. Successful technical assistance required at least monthly contact.

Lesson Learned: The Default Extension Center "Regions" Should be States
ARRA leaves it up to the ONC to determine the size and configuration of "regions" to be served by the Regional Extension Centers. Extension Center "regions" organized by state will be best suited to provide the needed services, link with ARRA-funded state Health Information Exchange initiatives, and engage with provider organizations, which are organized at the state level. These same advantages would accrue to regions within a state.

Lesson Learned: Allow Providers Time to Implement EHRs and Accrue Data for Reporting
Federal officials must have a pragmatic appreciation for the lead time practices need to have their health IT systems up and running, and to then accrue sufficient patient data to report to a federal clinical data warehouse.

Lesson Learned: Allow Federal Officials and Vendors Time to Prepare for Reporting
Federal officials must be certain they have established a workable system for receiving data transmitted from practices through their EHRs. That system must be designed in conjunction with vendors, so they have time to prepare their systems to be capable of exporting data in an acceptable format.

Lesson Learned: Financial Incentives Will Influence Provider Priorities, for Better and Worse. The time and energy available to be divided between reporting and clinical improvement is finite, and the time needed to achieve either is considerable. Given the cost of acquiring and implementing health IT, and the prospect of recovering a portion of those costs from the ARRA financial incentives, providers may be expected to give priority to satisfying the government's "meaningful use" requirements. These requirements should be chosen carefully to minimize diversion of time and attention from clinical improvement.

Lesson Learned: Extension Centers Need a Strong, Arms-length Relationship with Vendors
A balanced relationship between health IT vendors and Extension Centers is a key consideration for ONC in implementing Section 3012 of the ARRA. Extension Centers must be independent of vendors to carry out their role of objectively helping providers compare and select vendors' products. But there are also strong benefits to the two types of entities working together.

Introduction

Health information technology (health IT) can improve the quality and efficiency of the American health care system. But just persuading doctors and hospitals to buy computers will not ensure electronic clinical information is used to manage chronic illness, facilitate timely preventive care, and cut costs.

There is evidence many providers have purchased inadequate clinical decision support software (CDSS), or are not using their CDSS to improve care management despite having purchased a fully functional system.[1] A recent study found no association between ambulatory care quality and possession of EHR technology, cautioning that "as EHR use broadens, one should not assume an automatic diffusion of improved quality of care…Policy makers should consider steps to increase the likelihood that further diffusion of EHR has the desired effect of improving quality of care."

One reason for this is the complexity of health IT software. These are not "plug and play" systems. Most physicians and other health professionals lack training and experience in the process of evaluating health IT systems. Health IT vendors assist health professionals to install their new hardware and software, but these vendors are not in the business of serving as clinical practice redesign consultants. At the time of installation most health professionals and their office staff are unprepared to make informed decisions in response to a vendor's questions about preferred clinical management software customization and reporting formats.

Just as important, most are unprepared to rethink the way they currently provide care, identify opportunities to incorporate evidence-based best practices into their workflow, and retrain themselves to take advantage of the capabilities of new information systems. Few practices fully anticipate the changes they need to make, and most are unequipped to successfully navigate these changes without assistance. Practices need the assistance of consultants who can provide hands-on guidance through the entire health IT implementation cycle. Unfortunately, the small physician office practices typical of the majority of practices in this country, and providers serving rural and disadvantaged communities, cannot afford such consultants. Few consulting firms even market their services to this segment of providers.

<u>Lesson learned: Planning and Implementation Assistance is Essential to Avoid Failure</u>
The risk of leaving practices unsupported through their efforts to adopt health IT is that they will fail, and their experience is likely to discourage others from making the attempt. Dr. David Brailer, the first Director of the ONC, once estimated that about fifty percent of physician practices that attempt on their own to move from paper to EHR systems will fail. Others have reported similar or even higher rates of failure:

> "Despite an accumulation of best practices research identifying success factors, IT implementation projects are often not successful. Across industry sectors, at least 40% of such generic IT projects either are abandoned or fail to meet business requirements, while fewer than 40% of large systems purchased from vendors meet their goals. Some sources report 70% failure rates. Other studies show that as few as one in eight information technology projects is considered truly successful, with more than half overshooting budgets and timetables and still not delivering what was promised. According to the 2006 CHAOS Report by The Standish Group, only 35% of IT projects were completed on time, on budget,

> and met user requirements…. Similar failure rates have been reported specifically for health IT" [2]

The causes of most of these failures have less to do with the quality of the IT itself than with the quality of the user's preparation:

> "A 2007 study of 214 projects in a variety of sectors that included 18 health care projects identified inadequate management practices as accounting for 65% of the factors associated with project failure. The remaining 35% of the failed projects were classified by the authors as due to technical factors, including poor or inappropriate requirements, design, development tools, user documentation, test planning, and technical support, all arguably management issues as well." [3]

These observations are consistent with reports from the national field force of Quality Improvement Organizations (QIOs). The QIOs gained considerable experience as a result of being deployed by the Medicare program to help thousands of physician office practices to successfully implement health information technology. The lessons learned by QIOs make it clear that realizing the promise of health IT in the United States will require a concerted national effort to help providers thoroughly prepare for—and adapt their practices to—this powerful technology.

Facilitating Widespread Adoption of Health IT: The ARRA

The American Recovery and Reinvestment Act of 2009 (ARRA), enacted by Congress in February 2009, addresses two major barriers to the widespread purchase and use of electronic health record systems. ARRA provides billions of dollars in financial assistance to partially offset the cost of purchasing health IT, and the legislation funds new "Regional HIT Extension Centers." The Regional Extension Centers, analogous to the federal agricultural extension program that helps farmers adapt scientific findings to their local needs, will be focused on the following responsibilities, as described in the new law:

> "The objective of the regional centers is to enhance and promote the adoption of health information technology through—
>
> "(A) assistance with the implementation, effective use, upgrading, and ongoing maintenance of health information technology, including electronic health records, to health care providers nationwide;
> "(B) broad participation of individuals from industry, universities, and state governments;
> "(C) active dissemination of best practices and research on the implementation, effective use, upgrading, and ongoing maintenance of health information technology, including electronic health records, to health care providers in order to improve the quality of healthcare and protect the privacy and security of health information;
> "(D) participation, to the extent practicable, in health information exchanges;
> "(E) utilization, when appropriate, of the expertise and capability that exists in federal agencies other than the Department; and
> "(F) integration of health information technology, including electronic health records, into the initial and ongoing training of health professionals and others in the health care industry that would be instrumental to improving the quality of healthcare through the smooth and accurate electronic use and exchange of health information.[4]

Under the ARRA, the Office of the National Coordinator for Health Information Technology (ONC) is responsible for rapidly fielding a national network of Regional HIT Extension Centers. To do so, they must anticipate the size of the Extension Center workforce they are attempting to activate in the field, as well as the knowledge and skills that workforce must possess in order to successfully assist physicians and others in selecting, implementing and using health IT in clinical practice.

Officials at the Centers for Medicare and Medicaid Services (CMS) were prescient in designing the Doctors Office Quality-Information Technology (DOQ-IT) initiative, anticipating by five years the need for entities to fulfill the role of Regional health IT Extension Centers. Since 2005, the Medicare program has contracted with the national network of Quality Improvement Organizations (QIOs) to assist physicians in planning for, selecting, implementing and using health information technology (HIT) in their daily practice.

Medicare contracted with the QIOs to support primary care office practices, targeting those at an early stage of health IT adoption. No more than 25% of the practices QIOs supported could have previously executed contracts with HIT vendors, and a majority of those practices had to be small (fewer than 9 physicians). During the 3 years of DOQ-IT, QIOs assisted over 3,700 practices nationwide, making it one of the largest HIT implementation efforts yet attempted in fee for service health care.

The CMS evaluation of DOQ-IT found that practices exceeded CMS expectations in using their EHRs for care management. An independent survey conducted for QIO program evaluation purposes found that practices were overwhelmingly satisfied with the QIOs assistance. Three-quarters of practices were satisfied with the QIOs' knowledge of technology options, their ability to appropriately assess the practice's technology needs, and their assistance in improving the quality and efficiency of care.[5, 6]

The American Health Quality Association (AHQA), representing the national community of QIOs, recently queried member organizations that achieved an "Excellent Pass" in the CMS evaluation of the DOQ-IT program, asking them to share lessons learned that would help federal officials in their implementation of the health IT provisions of the ARRA. Those lessons are summarized in this paper.

Workforce Requirements for Regional Extension Centers

Regional Extension Centers must have both adequate numbers of staff, and staff with the right skills. The Regional Extension Center must be able to provide both technical assistance in using equipment and software, as well as implementation assistance to ensure the provider uses the health IT effectively to improve the quality and efficiency of clinical practice.

Lesson Learned: Regional Extension Center Personnel—Size of Workforce

A threshold question confronting the ONC is the size of the workforce that Regional Extension Centers must employ and train to support a national transition to health IT. The scale of the effort depends greatly on the number of practices to receive assistance. The ARRA explicitly sets as a strategic objective for the ONC "[t]he utilization of an electronic health record for each person in the United States by 2014."[7] Of approximately 500,000 practicing physicians in the United States,

83% or about 415,000 work in practices that lack even a basic EHR system.[8] Estimating the average U.S. physician practice consists of approximately 2 practitioners,[9] there are roughly 208,000 physician office practices across the United States that have yet to make the transition to electronic health information management.[10] The author of one recent article estimates that there are 250,000 practices needing assistance.[11] The ARRA suggests all are candidates for assistance.

A second question is the number of practices that can be supported by each consultant employed by a Regional Extension Center. The previously cited author estimated, based his experience that a single consultant can support the implementation of health IT at five practices, that a national network of entities similar to a Regional Extension Centers would need to hire about 50,000 health IT facilitators.[12] QIOs surveyed by AHQA for this paper reported they supported physician office practices with an average of one QIO staff person for every 18.1 practices and a median of 1:18.8 consultants to practices. The ratios reported by QIOs ranged from 1:5 to 1:30. The 1:5 ratio was reported from one of the most rural states in the country; the remainder were 1:6.5 or higher. Using the median ratio reported by QIOs yields an estimate that Regional Extension Centers will require approximately 11,000 to 13,000 health IT consultants to assist physicians in 208,000 to 250,000 practices lacking even basic EHRs.

Lesson Learned: Regional Extension Center Personnel—Skills Needed

Consistent with the evidence that shortcomings in management and planning explains most IT implementation failures, technical knowledge of commonly used HIT vendors and their products is necessary, but insufficient in and of itself. The chief information officer at Harvard Medical School and Beth Israel Deaconess Medical Center recently observed:

> "If we place the burden of responsibility for introducing new hardware and software on the users themselves, we're bound to fail. My experience is that more than three-quarters of the effort required to successfully implement technology goes into workflow redesign, change management, education, and training."[13]

QIOs report that their technical assistance staff commonly came from a background of EHR implementation, but then had an additional learning curve in areas of clinical process redesign techniques and office-based practice culture in order to be proficient at providing health IT implementation assistance in this setting. They report that the specific knowledge and capabilities needed to support providers in successfully implementing health IT include:

1) Knowledge of each type of provider setting (e.g., how hospitals and office practices differ in the way they do their work).

2) Knowledge of each specific provider operation (e.g., their objectives and the barriers they face in that office practice).

3) Knowledge of how to accomplish clinical process redesign.

4) Technical health IT product knowledge, including not only various EHRs, but infrastructure to support this technology (e.g., arranging for adequate bandwidth to transmit information and images; locating servers so heat does not build up and degrade functionality; setting up security features to permit wireless transmissions in the office).

5) Capability to assist providers with the initial decision to select an EHR, including basic education on the use of health information technology in clinical practice, estimating returns on investment, training in basic to advanced computer skills, and training on various ancillary support issues, such as how to maintain a server, best practices for backup of electronic files, ensuring system security, and planning for power outages and other contingencies.

6) Detailed knowledge of the structure of quality measures and how such measures map to individual EHR software architectures, as well as how to extract data related to those measures from an office system so that the data can be reported at both the patient and population levels--either to another provider's system, or to an agency for quality reporting and reimbursement purposes.

7) A good working knowledge of interfacing standards, HITSP standards, CCHIT criteria, clinical terminology standards, and standards associated with health information exchanges.

Health Information Technology Extension Center Services

QIOs report that many practices believe they can simply purchase software and hit the ground running. But QIO experience is consistent with reports in the peer-reviewed literature: unless a practice redesigns their clinical procedures to fully utilize the capacity of the EHR, hopes for management, patient safety, and preventive care improvements will be dashed. The need for planning and adaptation for new technology can be undermined by misconceptions. Providers must receive impartial expert guidance and support. Without support on tailoring the system for daily clinical use, most practices will waste their time merely automating ineffective paper-based operating procedures.

Medicare's DOQ-IT program sought to provide this missing element. One QIO field consultant summed up the experience as follows:

> "In interviews of over 50 practices that had adopted EHRs we found that improving quality of care was very often one of their top goals when they bought an EHR. Yet, only one or two were really using them in a way to improve care. Direct practice feedback in DOQ-IT revealed that the workflow analysis and mapping [to clarify all the steps involved in a clinical process] were critical to success and participants highly valued a neutral party to help weed through all of the vendor choices."

<u>Lesson Learned: Extension Center Services Providers Need Most</u>
QIOs report that physician offices greatly benefited from setting target quality goals at the beginning of the process, and working with their QIO consultants to create a clear implementation plan to achieve those goals. All of the QIO health IT experts we contacted stressed the critical importance of onsite assistance to guide practices through clinical workflow redesign. Successful technical assistance required at least monthly contact, including the following forms of support.

Support needed up through the "Go Live" date (first use of the system in clinical practice):

1) Onsite readiness assessment of the entire practice, including support staff (QIOs typically plan a day for this step alone).

2) Coaching through vendor demonstrations (including a minimum of two to three product demonstrations). Vendor neutrality is critical in this phase.

3) Scheduling and accompanying practice leaders on site visits to view EHRs already in use in other practices. Vendor neutrality is critical in this phase.

4) Review and advise the practice during the contracting phase (sample boilerplate contract language was sometimes offered but QIOs suggested legal advice on contracts as well). Vendor neutrality is critical in this phase.

5) Assistance building visit templates, setting up interfaces for labs, customizing practice letters (e.g., follow-up, referral, discharge, employer absenteeism forms, etc.)

6) Customizing Quick-lists, Short-lists and physician favorites (practices at this stage may not understand that they need to perform this step because, later, the data flow from the system will otherwise be overwhelming).

7) Often includes basic computer education for physicians and staff.

8) Identifying IT hardware support vendors for office hardware, cabling and wireless network and general PC/Tablet/Laptop Support.

9) Deciphering and supporting the vendor pre-implementation project plan.

10) Assurance. Hand-holding is critical during this phase, without it the practice will become overwhelmed.

Support needed after the "Go Live" date includes:

1. Office redesign review. Identify what is working, and where improvement is necessary to reduce redundancy and improve efficient workflow.

2. Re-training. Many physicians and office staff will have developed their own way of using the EHR system and may need a refresher course to ensure all are using the system properly.

3. Increasing usability of the EHR. During EHR training the vendor is focused on getting everyone to use the application at a basic level. But end-users cannot retain the amount of information required to advance their EHR skill-set on their own.

4. Activating optional modules or EHR functionality. Examples include:
    a. Turning on reminders, alerts and health maintenance monitoring.
    b. Building patient-level reports and care plans (e.g. diabetes management care plan).
    c. Building basic patient population reports (e.g., how many patients need/received a flu shot this season).
    d. Building advanced patient reports (e.g., identifying patients with cardiovascular disease taking warfarin who have an elevated INR, those who are non-compliant, and those needing an appointment).

e. Building and submitting reports to participate in a Pay for Performance or Reporting initiative (e.g., PQRI and CMS e-Rx initiatives).
f. Refining the clinical workflow through a series of improvement cycles (e.g., Plan/Do/Study/Act or PDSA cycles).

5. Ongoing support for greater customization as the practice gets used to what their new system can do for their patients and for the practice.

Lesson Learned: The Typical Extension Center "Region" Should be a State
ARRA leaves it up to the ONC to determine the size and configuration of "regions" to be served by the Regional Extension Centers. Regions organized by state will generally be best suited to these tasks.

The ARRA administers its Health Information Exchange (HIE) grants through the states, and charges Extension Centers with ensuring that providers can participate effectively in these HIE systems. In addition, providers are licensed and their service organizations are organized at the state level. These state-level relationships have facilitated formation of purchasing collaboratives to negotiate with major EHR vendors, establish regional health information exchange projects, and clinical improvement projects. The services of Extension Centers are less "technical" support of hardware and software that might be accomplished by distant help desk personnel. QIOs learned that supporting health IT planning, implementation, and use—required trust and a significant onsite presence for troubleshooting, demonstrations, and reassurance—all difficult to sustain from a location many states distant. These same advantages would accrue to regions within a state.

Quality Reporting to Demonstrate "Meaningful Use" of Health IT

Under the terms of the ARRA, providers must demonstrate "meaningful use" of health IT in order to qualify for payment incentives beginning in 2011, and to avoid penalties that begin in 2015. While Congress gave the HHS Secretary considerable discretion in defining "meaningful use" (particularly in the early years of implementation), it is likely that at some point in the next several years practices will have to report to government agencies to demonstrate "meaningful use."

The Medicare DOQ-IT initiative also included an expectation that, in the final phase of implementation of health IT, practices would report quality data measures to a CMS-funded data warehouse. Although practices reported strong satisfaction with the technical support and consultation received from the QIOs, only a handful of practices were able to successfully transmit quality measures to the CMS data warehouse. The experience of obtaining physician quality reports under DOQ-IT offers some valuable lessons for using quality measure reporting to gauge "meaningful use."

Lesson Learned: Allow Providers Time to Implement EHRs and Accrue Data for Reporting
Federal officials must have a pragmatic appreciation for the lead time practices need to have their health IT systems up and running, and to then accrue sufficient patient data to export to a federal clinical data warehouse. In this regard, DOQ-IT provides lessons in how not to organize a reporting system.

Reporting deadlines in the DOQ-IT initiative were artificially constrained by the timing requirements of the QIO evaluation. Many practices were still fully occupied with the challenge of

preparing to use their EHR in practice, and did not progress to the point of reporting quality measures before the QIO program evaluation deadlines.

In addition, data does not immediately become available when an EHR is implemented at a practice. QIOs observe that it often takes a year after the "go live" date for a practice to become proficient with its new EHR, and another year to see and treat the active patient population, enter their data, and begin reporting quality measures. The second part of this progression—acquiring data from patient encounters—depends to some extent on what is being measured. Data for measures of care for chronically ill patients who visit one physician office regularly during the year (e.g., HbA1c values for people with diabetes who are being managed only by their primary care physician) may accrue more rapidly than data from preventive services screenings in the general population, for which data may be gathered only when patients present themselves for annual office visits.

Lesson Learned: Allow Federal Officials and Vendors Time to Prepare for Reporting
In DOQ-IT, most practices that attempted to report to the government warehouse found that they could not do so, even with hours of effort and onsite assistance from their QIO.

- With little time to prepare, the CMS data warehouse was not ready to receive reports until two years into the project.

- Most EHR products were neither created nor easily reconfigured to export data to a government clinical data warehouse.

- Most vendors were reluctant to invest resources in retroactively modifying their products to address technical issues that prevented the export of data to the CMS warehouse.

- Office practice schedules conflicted with the availability of CMS clinical warehouse support staff, with the result that help was not available at times when the practices wanted it, necessitating additional work from most of the parties involved.

Federal officials must be certain they have established a workable system for receiving data transmitted from practices through their EHRs. That system must be designed in conjunction with vendors, so they have time to prepare their systems to be capable of exporting data in an acceptable format.

Lesson Learned: Payment Incentives Will Influence Provider Priorities, for Better and Worse
QIOs report that during the DOQ-IT initiative many practices were attracted by payment incentives to report data through the claims-based PQRI program in lieu of reporting through their EHR under DOQ-IT. Given the cost of adopting health IT and the prospect of recovering a portion of those costs from the ARRA financial incentives, practices may be expected to give priority to reporting data to satisfy the government's "meaningful use" requirements, and only later invest time and energy in reexamining their daily approach to caregiving.

The time and energy available to be divided between reporting and clinical improvement is finite, and the time needed to achieve either is considerable. One QIO field consultant reported that even after practices understand their EHR well enough to be able to use it to report on clinical practice, progress is necessarily methodical and time-consuming:

> "One very effective and efficient group practice that encompasses four clinics has been able to generate registry reports for several measures. However, they have only been able to attend to improvement in a couple areas at a time, with each area taking six months to a year before gains are seen and [they are then] ready to move to the next area."

Investing time first on reporting and then on improvement is probably unavoidable in a quality incentives system at present—after all, federal officials cannot give performance incentives for improving care before establishing a reliable quality measurement system—but trade-offs are involved that should be managed. While measurement and reporting can spur self-assessment and may help focus providers on previously unrecognized problems in their practice, the clinical value of measurement and reporting depends on how well the available quality measures correspond to the major clinical problems most deserving the clinicians' attention.

This is one lesson learned from the most widely used hospital clinical quality measures: a measure may have a strong scientific basis and may be readily measured but still be a weak predictor of patient outcomes.[14,15,16] This doesn't mean these measures are poor, but if other measures were available that more strongly predicted outcomes, they might well be reported publicly and serve as the basis for financial incentives, instead. The value of reported quality measures in predicting patient outcomes may improve as a result of the measurement prioritization process set in motion by section 183 of the Medicare Improvements for Patients and Providers Act of 2008 (MIPPA, P.L.110–275).

Lesson Learned: Reasons for Optimism.
Reporting of quality measures from EHRs will probably occur more smoothly under the ARRA in 2011 than under DOQ-IT in 2005. First, if incentives for reporting are phased in carefully, both CMS and vendors will have time to prepare for reporting. Second, the flexibility Congress allowed HHS to increase the requirements for "meaningful use" over time—perhaps not starting immediately with requiring reported quality measures—will permit the Secretary to avoid unrealistic reporting expectations. Now that Congress has authorized financial incentives for both forms of reporting, it is unclear is whether the problem of competing claims-based and EHR-based reporting programs, which arose when PQRI was implemented during the DOQ-IT initiative, will arise again. The potential for competition between these mechanisms may be reduced by the fact that PQRI has begun accepting registry data.

Relationship of Vendors and Regional Extension Centers

Lesson Learned: Extension Centers Need a Strong, Arms-length Relationship with Vendors A balanced relationship between health IT vendors and Extension Centers is another key consideration for ONC in implementing Section 3012 of the ARRA. Extension Centers must be independent of vendors to carry out their role of objectively helping providers compare and select vendors' products. But there are also strong mutual benefits to the two types of entities working together. In the end, vendors will benefit when Extension Centers help providers successfully use their products, and providers will benefit when Extension Centers make vendors aware of problems and help them understand what modifications or explanations may be needed.

QIOs built a successful working relationship with many vendors during the Medicare DOQ-IT initiative. QIOs provided additional support that "wrapped around"—preceding, concurrent with, and following up after—vendor assistance in installing an health IT system at provider practice sites.

During DOQ-IT, some vendors worked with the QIOs to tackle the challenge of reporting quality data to the CMS clinical warehouse, despite the fact that the notion of the warehouse came long after EHR products were designed and on the market. The vendor support during DOQ-IT came mostly from on-the-ground vendor sales people. In the current QIO projects to support physician practices in using health IT to provide timely preventive services, there is more national-level vendor support for the relationship. QIOs coordinate to discuss common problems, and prepare questions and suggestions for vendors, who have generally been responsive.

Another successful model for Extension Center-vendor relationship, created by New York City's Department of Health and Mental Hygiene, involves a partnership with a health IT vendor that was selected through a competitive procurement for the City's Primary Care Information Project (PCIP). The PCIP vendor is responsible for providing a high level of service in getting the appropriate hardware and software installed in the practice, and QIOs are responsible for assisting the practices in the use of that IT system in clinical practice. In this model, practices remain free to select a different vendor's HIT product, but if they do so they will not receive implementation assistance paid for by the City. Several QIOs report the same vendor supporting the PCIP is actively coordinating with QIOs in preventive care initiatives in many states.

Conclusion

This white paper offers a number of lessons learned by the QIOs to aid the ONC in designing the national network of Health IT Regional Extension Centers funded by section 3012 of ARRA. AHQA believes the Regional Extension Centers will be called upon to perform a role remarkably similar to the responsibilities QIOs have performed under their Medicare contracts since the launch of the national Medicare Doctors Office Quality-IT initiative (DOQ-IT).

That role calls for independent, proactive organizations experienced in facilitating the transition to routine clinical use of health information technology, effective in partnering with others with valuable skills and relationships, and capable of providing these services at the community level after the short term funding authorized by ARRA has expired.

ONC should task Regional Extension Centers with focusing on the unique needs of each provider, matching the provider's needs and resources to the best available health IT solutions, without vendor bias, with the primary goal of improving quality and efficiency. The Extension Centers must be sensitive to the needs of typical small physician office practices, as well as providers serving vulnerable and rural populations, because it is uneconomical for commercial consultants to serve them, and because these providers are otherwise unlikely to earn payment incentives.

The Office of the National Coordinator should define Extension Centers' responsibilities to reach far beyond the narrow task of providing technical assistance to install a health IT system. A better conception, offered by a QIO HIT field consultant, sums up the job description of these organizations as local "health care advocates managing a community's healthy transformation to wellness and disease management."

Endnotes

[1] Eccles et al. Effect of Computerised Evidence Based Guidelines on Management of Asthma and Angina in Adults in Primary Care: Cluster Randomised Controlled Trial. British Medical Journal, 2002;325:941
[2] Kaplan B and Harris-Salamone K. Health IT Success and Failure: Recommendations from Literature and an AMIA Workshop. J Am Med Inform Assoc. 2009; 16:291-299.
[3] Ibid.
[4] American Recovery and Reinvestment Act of 2009, Section 3012(c)(3).
[5] Narayanan et al. 2007 Provider Satisfaction Survey Analytic Report to CMS. Westat, March 2008.
[6] Terry K. EHRs: The Feds Get Something Right. Medical Economics, March 16, 2007.
[7] American Recovery and Reinvestment Act of 2009, Sections 3001(c)(3)(A)(ii), and 3002(b)(2)(B)(iii).
[8] DesRoches CM et al. Electronic Health Records in Ambulatory Care – A National Survey of Physicians. NEJM. 2008; 359:50-60.
[9] Casalino LP et al. Benefits of and Barriers to Large Medical Group Practice in the United States. Arch IM. 2003; 163:1958-1964.
[10] This calculation based on an average practice size does not attempt to take into account the fact that most practices are small, while larger practices are more likely to have EHRs in place.
[11] Halamka JD. Making Smart Investments In Health Information Technology: Core Principles. Health Affairs 28, no. 2 (2009): w385–w389 (published online March 9, 2009)
[12] Ibid
[13] Ibid
[14] Bradley EH et al. Hospital Quality for Acute Myocardial Infarction: Correlation Among Process Measures and Relationship With Short-term Mortality. JAMA. 2006; 296:72-78.
[15] Werner RM, Bradlow ET. Relationship Between Medicare's Hospital Compare Performance Measures and Mortality Rates. JAMA. 2006; 296:2694-2702.
[16] Fonarow GC et al. Association Between Performance Measures and Clinical Outcome for Patients Hospitalized with Heart Failure. JAMA. 2007; 297:61-70.